

Systems Analyses and Engineering addresses challenges by ensuring that mission needs and customer expectations are clearly understood and reflected in project plans and deliverables.



Mission Analysis and Planning

Many projects face similar challenges in defining the problem, clarifying customer requirements, defining strategic direction, and coordinating the resources to plan and execute product delivery.

Systems Analyses and Engineering (SA&E) addresses such challenges by ensuring that mission needs and customer expectations are clearly understood and reflected in project plans and deliverables. This process, called Mission Analysis and Planning, initiates the development of system solutions by defining the problem; identifying and engaging major stakeholders; identifying the conditions and constraints that bound

the solution; and developing preliminary life-cycle system concepts that address the problem or take advantage of a new opportunity.

Customer and Mission Needs Assessment

Needs assessment involves gaining a clear, shared understanding of the problem being addressed. SA&E works with the customer to identify the needs that must be satisfied and the conditions in which the eventual solution must operate. Project goals and objectives are validated to determine the top-level functions the system must perform and the requirements and constraints associated with those functions. The results of this effort provide

a solid basis for determining the bounding assumptions, system requirements, performance expectations, decision criteria, and strategic direction of the project.

Operational System Concepts

Another critical aspect of Mission Analysis and Planning is establishing an overarching “operational concept” that describes the general characteristics of the potential solution from the user’s perspective. The operational concept establishes the various life-cycle conditions and constraints within which the solution will be designed, manufactured, implemented,

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operated, and maintained in terms of its technical, economic, social, and political characteristics.

These bounding conditions identify the solution space. The inputs and outputs crossing the boundaries of this space establish the internal and external interfaces that ensure a well-integrated solution.

A preliminary set of alternative system concepts that embody the bounding conditions

is also defined as a starting point for Alternatives Analysis and eventual selection of a system solution that meets customer needs and mission objectives.

Mission Statement and Planning

The primary products resulting from this effort are the project Mission Statement and initial Project Plan. These items define what the project intends to accomplish as a result of identified conditions, the envisioned end-state or product(s), and the perfor-

mance expectations. They are typically the first highly reviewed and broadly distributed descriptions of the envisioned system and its desired outcome(s).

Consequently, they are used to build agreement between different elements of the customer set; provide alignment between resources; and establish project cost, scope, and schedule baselines to guide project activities and ensure project success.

For more information

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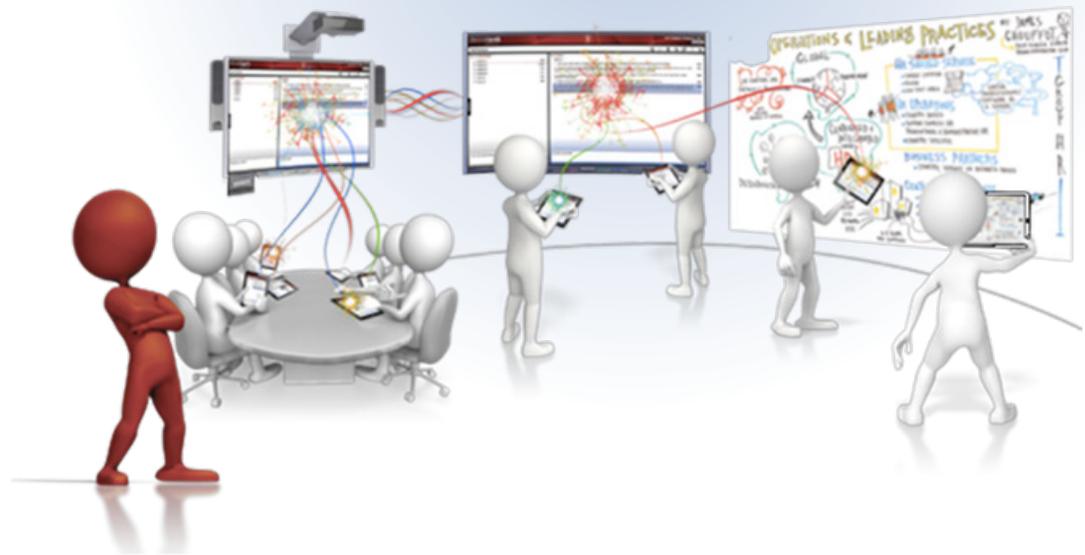
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